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Gerald W. Maliszewski
P.O. Box 270829
San Diego, CA 92198-2829

EXAMINER	
REDDING, THOMAS M	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/817,309	LEI ET AL.	
	Examiner	Art Unit	
	THOMAS M. REDDING	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 April 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's response received on 4/28/2008 is fully considered herein. Claims 1-47 are currently pending.

Specification

2. In response to applicant's amendment to the abstract removing the title, the objection to the abstract is withdrawn.

Response to Arguments

3. **Summary of Applicant's Remarks:** Regarding claims 1, 14, 24, 37, 47, the Mayer reference used in the 35 U.S.C. 102(b) rejection discloses alternating video fields where as the amended claims describe a single video frame with 2 interlaced fields.

Examiner's Response: The claim language calls for a video frame with two interlaced fields Mayer teaches an interlaced 3D frame similar to a standard TV video frame ("combined in a comb-like fashion to form an image", Mayer, column 1, line 20). The claim language recites a bitstream coding the frame as interlaced fields. Mayer teaches each frame is transmitted as the two fields in alternation, viewed as a sequence of frames, one field is interlaced with the other. The claim language, in its current form, does not clearly distinguish over the prior art.

Summary of Applicant's Remarks: Regarding claim 13, the rejection is improper because the combination of Mayer and Berry does not providing details concerning the coding or transmission of information in a video frame. The motivation for combining Mayer and Berry does not suggest modifications to Mayer that would enable the combination.

Examiner's Response: Berry discloses simultaneous presentation of 2D and 3D information. A detailed description of how to implement the combination is beyond the requirements for a 35 U.S.C. 103 rejection.

> **Enablement of the combination is not a requirement under 35 U.S.C 103. "Even if a reference discloses an inoperative device, it is prior art for all that it teaches." Beckman Instruments v. LKB Produkter AB, 892 F.2d 1547, 1551, 13 USPQ2d 1301, 1304 (Fed. Cir. 1989). Therefore, "a non-enabling reference may qualify as prior art for the purpose of determining obviousness under 35 U.S.C. 103." Symbol Techs. Inc. v. Opticon Inc., 935 F.2d 1569, 1578, 19 USPQ2d 1241, 1247 (Fed. Cir. 1991). (MPEP § 2121.01 II)**

The cited combination teaches the concepts as required by the claim and indicates why they should be combined. A detailed description of how to implement the combination is not a requirement.

Summary of Applicant's Remarks: Regarding claims 2, 4-5, 25 and 27-28, the 35 U.S.C. 103 rejection does not describe how to implement the combination of the primary reference with the Hannuksela and Wang references to implement compression using MPEG2, MPEG4 and H.264.

Examiner's Response: The cited claims themselves do not provide detailed description of implementation. "Enablement of the combination is not a requirement under 35 U.S.C. 103.", **(MPEP § 2101.01 II).**

Summary of Applicant's Remarks: Regarding claims 9, 15, 20, 32, 38 and 43 are improperly rejected under 35 U.S.C. 103 because the cited combination of the primary reference and Wiegand does not provide a description of how to implement the combination to improve bit savings using encoding.

Examiner's Response: The cited claims themselves do not provide detailed description of implementation. "Enablement of the combination is not a requirement under 35 U.S.C. 103", **(MPEP § 2101.01 II).**

Summary of Applicant's Remarks: Regarding claims 10-12, 21-23, 33-35 and 44-46, the 35 U.S.C. 103 rejection does not describe how to implement the combination of the primary reference with Wiegand and Nelson to improve bandwidth efficiency.

Examiner's Response: The cited claims themselves do not provide detailed description of implementation. "Enablement of the combination is not a requirement under 35 U.S.C. 103", **(MPEP § 2101.01 II).**

Summary of Applicant's Remarks: Regarding claims 17-19 and 40-42 the 35 U.S.C. 103 rejection does not describe how to implement the combination of the primary

reference with Wiegand and Inuzuka et al. to avoid encoding and decoding information that is not used.

Examiner's Response: "Enablement of the combination is not a requirement under 35 U.S.C. 103", **(MPEP § 2101.01 II).**

Claim Objections

Claim Objections - 37 CFR 1.75(a)

1. The following is a quotation of 37 CFR 1.75(a):

> The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

2. Claim 14 is objected to under 37 CFR 1.75(a), as failing to particularly point out and distinctly claim the subject matter which application regards as his invention or discovery. Lines 3 and 4 of claim 14 recites "accepting a current 3D video image, including a first view of the image and a second, 3D, view of the image;". The description of the second view being a "3D" view, particularly as the first view is not labeled as such, is problematic and is possibly a typo. Since the individual fields themselves are not 3D, it would clearer if the claim just referred to "a second view of the image". Correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 8, 14, 16, 24, 26, 31, 29 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Mayer et al. (US 6,449,003).

Regarding claims 1, 24 and 47 Mayer, working in the same field of endeavor of 3D encoding, teaches [a] three-dimensional (3D) video receiver system, the system comprising:

a decoder having an input connected to a channel to accept a bitstream with a first video frame encoded with two interlaced fields and an output to supply a frame top field and a bottom field, both decoded from the first video frame ("The line polarization method utilizes the interlace method in televisions transmissions. In the interlace method, a first and a second field are always transmitted in alternation, these being combined in a comb-like fashion to form an image", Mayer, column 1, line 19, Mayer's frames consists of the two fields in alternation, effectively an interlace); and,

a display having an input to accept the decoded fields, the display visually presenting the decoded top and bottom fields as a 3D frame image ("FIG. 1 presents this situation [], whereby, for example, a 3D-image derives whose first line Z1 represents the first line of the 2D-Field 1, namely B1Z1, whose second line Z2 represents the second line of the 2D-Field 2, namely B2Z2, whose third line Z3 represents the third line of the 2B-Field 1, namely B1Z3, whose fourth line Z4 represents the fourth line of the 2D-Field 2, namely B2Z2, etc., until the penultimate line Zn-1 that represents the penultimate line of the 2D-Field 1, namely B1Zn-1, and last line Zn that represents the last line of the 2D-Field 2, namely B2Zn", Mayer, column 4, line 39 and "In FIG. 9, the input signal VS is digitalized and at least one image is deposited in the RAM memory 2 at the same time. With the controller 3, the stored images are fetched at a rate independent of the storing and are forwarded to the digital-to-analog converter 4 that generates a video signal with a new resolution therefrom and forwards it to the picture screen 5", Mayer, column 8, line 56, and figure 9).

Regarding claims 3 and 26, Mayer teaches wherein the display visually presents the decoded top and bottom fields as a stereo-view image ("In FIG. 9, the input signal VS is digitalized and at least one image is deposited in the RAM memory 2 at the same time. With the controller 3, the stored images are fetched at a rate independent of the storing and are forwarded to the digital-to-analog converter 4 that generates a video signal with a new resolution therefrom and forwards it to the picture screen 5", Mayer, column 8, line 56, and figure 9 and "one can view three-dimensionally with

corresponding eyeglasses that filter out the one image for the one eye and the other image for the other eye", Mayer, column 1, line 35).

Regarding claims 8 and 31, Mayer teaches wherein the display visually presents a 2D image in response to using only one of the decoded first video current frame interlaced fields ("FIG. 6 shows a sixth table with the indication of line allocations given a change from a three-dimensional image to a two-dimensional image", Mayer, column 3, line 51 and Figure 6, Figure 6 shows the 2D image being generated from all odd field lines, which would correspond to one of the interlaced fields).

Regarding claims 14 and 37, Mayer teaches [a] three-dimensional (3D) video encoding system, the system comprising:

an encoder having an input to accept a current 3D video image, including a first view of the image and a second, 3D, view of the image, the encoder encoding the first view as a frame top field and the second view as the frame bottom field, interlaced in a first video frame, and the encoder having a channel-connected output to supply a first video frame bitstream ("The line polarization method utilizes the interlace method in televisions transmissions. In the interlace method, a first and a second field are always transmitted in alternation, these being combined in a comb-like fashion to form an image", Mayer, column 1, line 19 and figure 1, showing the separate 2d input images being encoded as an inter-laced 3D image, Mayer's frames consists of the two fields in alternation, effectively an interlace).

Regarding claims 16 and 39, Mayer teaches wherein the encoder accepts a first and second view of a stereo image (Mayer, figure 1, showing a left-eye and right-eye input image being converted into a 3D-image).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al. (US 6,449,003) in combination with Berry et al. (US 6,081,270).

Regarding claim 13, Mayer teaches [t]he method of claim 1 and presenting a 2D image in response to using one of the decoded first video frame interlaced fields as described above.

Mayer does not teach simultaneous with the presentation of the 3D image, presenting a 2D image.

Berry working in the same problem solving area of image display does teach simultaneous with the presentation of the 3D image, presenting a 2D image (“A 2D

presentation plane is used in conjunction with presentation of a 3D virtual world", Berry, column 4, line 26)

It would have been obvious at the time the invention was made for one of ordinary skill in the art to combine the simultaneous 2D/3D display method of Park with the 3D coding system of Mayer's as "the combination of 2D and 3D presentations in a single view provides the benefits of both images simultaneously" (Berry, column 5, line 6, and "The simultaneous combination of 3D and 2D presentations provides optimum ease of use and productivity in a single seamless user environment" (Berry, column 5, line 26).

5. Claims 2, 4, 5, 25, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al. (US 6,449,003) in combination with Hannuksela (US 2004/0218816) and Wang et al. (US 2004/0096109) as an evidentiary reference.

Regarding claims 2 and 25 Mayer discloses the elements in common with claims 1 and 24.

Mayer does not teach accepting the bitstream in a standard selected from the group including Motion Pictures Expert Group-2 (MPEG2), MPEG4, and ITU-T H.264 standards.

Hannuksela working in the same problem area of efficient video transmission ("The invention also relates to a system, transmitting device, receiving device, an encoder, a decoder, an electronic device, a software program, a storage medium, and a signal", Hannuksela, paragraph 1), does teach accepting the bitstream in a standard

selected from the group including Motion Pictures Expert Group-2 (MPEG2), MPEG4, and ITU-T H.264 standards ("Recommendation H.264 and ISO/IEC International Standard 14496-10 (MPEG-4 Part 10). The draft standard is referred to as the JVT coding standard in this application, and the codec according to the draft standard is referred to as the JVT codec", Hannuksela, paragraph 8).

It would have been obvious at time the invention was made for one of ordinary skill in the art to use the encoding and decoding methods described by Hannuksela with the 3D system of Mayer since "Without video compression, the number of bits required to represent digital video content can be extremely large, making it difficult or even impossible for the digital video content to be efficiently stored, transmitted, or viewed" (Wang, paragraph 2).

Regarding claims 4, 5, 27 and 28, the combination of Mayer, Hannuksela and Wang does teach wherein the decoder receives a supplemental enhancement information (SEI) 3D content message with the first video frame ("In the JVT coding standard, PTS can optionally be carried as a part of Supplemental Enhancement Information (SEI)", Hannuksela, paragraphs 34 and 35, SEI is part of the H.264 standard and is used to carry specific data about the information sent, it would be natural to send 3D field information, e.g. right eye image or left eye image), analyzes display capabilities ("In order to be compatible with the various standards, it is necessary to be able to adapt. When, for example, images are transmitted in the one standard but are to be presented in the other standard, a corresponding conversion of

the images is necessary", Mayer, column 4, line 54, Mayer's primary concern is adapting input to match the capabilities of the display), and, if non-3D display capabilities are detected, decodes only one of the first frame interlaced fields in response to the 3D option SEI message; and,

wherein the display visually presents a two-dimensional (2D) image ("FIG. 6 shows a sixth table with the indication of line allocations given a change from a three-dimensional image to a two-dimensional image", Mayer, column 3, line 51 and Figure 6).

6. Claims 9, 15, 20, 32, 38, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al. (US 6,449,003) in combination with Wiegand et al. (IEEE 2003).

Regarding claims 15 and 38, Mayer teaches the elements of claims 14 and 37.

Mayer does not teach wherein transmitting the bitstream in a standard selected from the group including Motion Pictures Expert Group-2 (MPEG2), MPEG4, and ITU-T H.264 standards.

Wiegand working in the same problem solving area of video coding, does teach transmitting the bitstream in a ITU-T H.264 standard ("Overview of the H.264/AVC Video Coding Standard", Wiegand, Title).

It would have been obvious at the time the invention was made for one of ordinary skill in the art to use the H.264 encoding method as taught by Wiegand with the

3D coding system of Mayer since "[w]hen used well together, the features of the new design provide approximately a 50% bit rate savings for equivalent perceptual quality relative to the performance of prior standards (especially for higher-latency applications which allow some use of reverse temporal prediction)", Wiegand, page 575, column 2, 2nd paragraph).

Regarding claims 9 and 32, Mayer teaches all the elements of claim 1 and 24 as given above.

Mayer does not teach wherein the decoder, prior to accepting the first video frame, accepts a first encoded video frame, derives a predictive first frame top field, derives a predictive first frame bottom field, decodes the first video frame top field in response to the predictive first frame top field, and decodes the first video frame bottom field in response to the predictive first frame bottom field.

Wiegand, working in the same problem solving area of video coding, does teach wherein the decoder, prior to accepting the first video frame, accepts a first encoded video frame, derives a predictive first frame top field, derives a predictive first frame bottom field, decodes the first video frame top field in response to the predictive first frame top field, and decodes the first video frame bottom field in response to the predictive first frame bottom field ("Predictively coded pictures (called "P" pictures) in MPEG-2 and its predecessors used only one previous picture to predict the values in an incoming picture", Wiegand, page 561, column 2, paragraph 2, H.264 uses predictive

coding, and "To not combine the two fields and to code them as separate coded fields (field mode)", Wiegand, page 566, column 2, paragraph 4).

It would have been obvious at the time the invention was made for one of ordinary skill in the art to use the adaptive frame/field coding method of Wiegand in the 3D coding system of Mayer for better coding efficiency ("In interlaced frames with regions of moving objects or camera motion, two adjacent rows tend to show a reduced degree of statistical dependency when compared to progressive frames in (sic). In this case, it may be more efficient to compress each field separately", Wiegand, page 566, column 2, paragraph 4).

Regarding claims 20 and 43, the combination of Mayer and Wiegand teaches wherein the encoder, prior to accepting the current video image, accepts a first video image, encodes a first image top field, encodes a first image bottom field, encodes the first video frame top field in response to the first image top field, and encodes the first video frame bottom field in response to the first image bottom field ("Predictively coded pictures (called "P" pictures) in MPEG-2 and its predecessors used only one previous picture to predict the values in an incoming picture", Wiegand, page 561, column 2, paragraph 2, H.264 uses predictive coding, and "To not combine the two fields and to code them as separate coded fields (field mode)", Wiegand, page 566, column 2, paragraph 4).

7. Claims 10-12, 21-23, 33-35 and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al. (US 6,449,003) and Wiegand et al. (IEEE 2003) in combination with Nelson (US 2002/0009137 from IDS).

Regarding claims 10 and 33, the combination of Mayer and Wiegand does teach image coding by field as described above. The combination does not explicitly teach wherein the decoder, prior to accepting the first video frame, accepts a first encoded video frame, derives a predictive first frame first field, decodes the first video frame top field in response to the predictive first frame first field, and decodes the first video frame bottom field in response to the predictive first frame first field.

Nelson, working in the same field of endeavor of encoding 3D signals does teach wherein the decoder, prior to accepting the first video frame, accepts a first encoded video frame, derives a predictive first frame first field, decodes the first video frame top field in response to the predictive first frame first field, and decodes the first video frame bottom field in response to the predictive first frame first field ("The video stream compressor 350 includes an enhancement stream compressor 352, a base stream compressor 354", Nelson, paragraph 124 and "Either the right field view video stream or the left field view video stream may be used to generate a base stream. For example, when the left field view video stream is used to generate the base stream, the right field view video stream is used to generate the enhancement stream, and vice versa", paragraph 125, and "the enhancement stream compressor preferably receives one or more I-pictures 366 from the base stream compressor 354 for its video stream

compression. P-pictures and/or B-pictures for the enhancement stream 368 preferably are encoded using the base stream I-pictures as reference images. Using this approach, one video stream preferably is coded independently, and the other video stream preferably coded with respect to the other video stream which have been independently coded", paragraph 128, the base stream is a standard MPEG-2 encode stream, the enhancement channel is the other camera view encoded with the same motion prediction).

It would have been obvious at the time the invention was made for one of ordinary skill in the art to use Nelson's method of using the prediction information from one view to predict frames in both views, with the 3D image system of Mayer and Wiegand for more efficient use of bandwidth since "Since the enhancement stream 54 does not contain all the information necessary to re-generate encoded video images, the enhancement stream decompressor 42 preferably receives I-pictures 41 from the base stream decompressor 40 to decode its P-pictures and/or B-pictures", Nelson, paragraph 53).

Regarding claims 11 and 34, the combination of Mayer, Wiegand and Nelson teaches wherein the decoder derives a predictive first frame top field ("Either the right field view video stream or the left field view video stream may be used to generate a base stream. For example, when the left field view video stream is used to generate the base stream, the right field view video stream is used to generate the enhancement stream, and vice versa", paragraph 125).

Regarding claims 12 and 35, the combination of Mayer, Wiegand and Nelson teaches wherein the decoder derives a predictive first frame bottom field ("Either the right field view video stream or the left field view video stream may be used to generate a base stream. For example, when the left field view video stream is used to generate the base stream, the right field view video stream is used to generate the enhancement stream, and vice versa", paragraph 125).

Regarding claims 21 and 44, the combination of Mayer, Wiegand and Nelson teaches wherein the encoder, prior to accepting the current image, accepts a first video image, encodes a first image first field, encodes the first video frame top field in response to the first image first field, and encodes the first video frame bottom field in response to the first image first field ("The video stream compressor 350 includes an enhancement stream compressor 352, a base stream compressor 354", Nelson, paragraph 124 and "Either the right field view video stream or the left field view video stream may be used to generate a base stream. For example, when the left field view video stream is used to generate the base stream, the right field view video stream is used to generate the enhancement stream, and vice versa", paragraph 125, and "the enhancement stream compressor preferably receives one or more I-pictures 366 from the base stream compressor 354 for its video stream compression. P-pictures and/or B-pictures for the enhancement stream 368 preferably are encoded using the base stream I-pictures as reference images. Using this approach, one video stream preferably is

coded independently, and the other video stream preferably coded with respect to the other video stream which have been independently coded", paragraph 128, the base stream is a standard MPEG-2 encode stream, the enhancement channel is the other camera view encoded with the same motion prediction).

Regarding claims 22 and 45, the combination of Mayer and Wiegand teaches wherein the first image first field is a first image top field ("Either the right field view video stream or the left field view video stream may be used to generate a base stream. For example, when the left field view video stream is used to generate the base stream, the right field view video stream is used to generate the enhancement stream, and vice versa", paragraph 125).

Regarding claims 23 and 46, the combination of Mayer and Wiegand teaches wherein the first image first field is a first image bottom field("Either the right field view video stream or the left field view video stream may be used to generate a base stream. For example, when the left field view video stream is used to generate the base stream, the right field view video stream is used to generate the enhancement stream, and vice versa", paragraph 125).

8. Claims 17-19 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al. (US 6,449,003) and Wiegand et al. (IEEE 2003) in combination with Inuzuka et al. (US 6,784,891).

Regarding claims 17 and 40, the combination of Mayer and Wiegand teaches [t]he method of claim 14 further comprising: transmitting a supplemental enhancement information (SEI) 3D option message with the current video frame.

The combination of Mayer and Wiegand does not explicit teach transmitting an SEI option message to trigger optional single field two-dimensional (2D) decoding.

Inuzuka, working in the same problem solving area of image display, does teach exchanging information between a display device and a data source in order to match capabilities (Inuzuka, figure 18, and "Further, by using the display control device 200, performing a negotiation procedure for exchanging the capabilities among the devices, a set-up of the compressed data type, the image area separation based on the image content, and adjusting the processing time "pf" and the display frame "f", it is also possible to enhance the image quality while utilizing the device capabilities", column 8, line 14).

It would have been obvious at the time the invention was made for one of ordinary skill in the art to use the display capability feedback method of Inuzuka with the SEI message feature of the combination of Mayer and Wiegand to effectively match display capabilities with the data source including switching to 2D output if the display does not have 3D capabilities. It also enables efficient use of bandwidth by avoiding encoding and sending information that the display is unable to make use of.

Regarding claims 18 and 41, the combination of Mayer, Wiegand and Inuzuka teaches wherein the encoder transmits a 2D command responsive to a trigger selected from the group including an analysis of connected receiver capabilities and the channel bandwidth (Inuzuka, figure 18, and "Further, by using the display control device 200, performing a negotiation procedure for exchanging the capabilities among the devices, a set-up of the compressed data type, the image area separation based on the image content, and adjusting the processing time "pf" and the display frame "f", it is also possible to enhance the image quality while utilizing the device capabilities", column 8, line 14, and “However, the upper limit value "fup" defined by the device capability of the display device itself can not be exceeded. Accordingly, the processing time "pf" can be defined as the upper limit value "fup" being the constraint”, Inuzuka, column 8, line 10, Inuzuka explains that the display capability can be used to establish the maximum usable data rate).

Regarding claims 19 and 42, the combination of Mayer, Wiegand and Inuzuka teaches wherein the encoder encodes and transmits only one of the fields from the first video frame (“FIG. 6 shows a sixth table with the indication of line allocations given a change from a three-dimensional image to a two-dimensional image”, Mayer, column 3, line 51 and Figure 6, Figure 6 shows the 2D image being generated from all odd field lines, which would correspond to one of the interlaced fields).

9. Claims 6, 7, 29, 30 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al. (US 6,449,003) in combination with Yun et al. (US 2003/0095177).

Regarding claim 36, Mayer teaches [t]he system of claim 24 wherein the display presents a 2D image in response to using only one of the decoded first video frame interlaced fields

Mayer does not explicitly teach displaying a 2D image as a selected alternative to the presentation of the 3D image.

Yun, working in the same area of endeavor of 3D imaging does teach displaying a 2D image as a selected alternative to the presentation of the 3D image ("When the user selects the 2D video display mode for stereoscopic 3D video data", Yun, paragraph 81, and "When the user selects the 3D video display mode for multiview 3D video data", Yun, paragraph 82).

It would have been obvious at the time the invention was made for one of ordinary skill in the art to use the 2D/3D mode selection of Yun with the 3D system of Mayer so the user can select a display mode according to his needs ("It is further another object of the present invention to select data suitable for the user's demand and the user system environments, thereby facilitating the data stream", Yun, paragraph 13) and basically just to let the user pick a display that appeals to him aesthetically.

Regarding claims 6 and 29, the combination of Mayer and Yun teaches wherein the decoder includes a 2D decision unit to supply 2D selection commands, and wherein the decoder decodes only one of the first video frame interlaced fields in response to the 2D selection commands; and, wherein the display visually presents a 2D image ("FIG. 6 shows a sixth table with the indication of line allocations given a change from a three-dimensional image to a two-dimensional image", Mayer, column 3, line 51 and Figure 6, Mayer clearly shows 3D input being reduced to 2D output and "In FIG. 9, the input signal VS is digitalized and at least one image is deposited in the RAM memory 2 at the same time. With the controller 3, the stored images are fetched at a rate independent of the storing and are forwarded to the digital-to-analog converter 4 that generates a video signal with a new resolution therefrom and forwards it to the picture screen 5", Mayer, column 8, line 56, and figure 9, Mayer's output goes to a display).

Regarding claims 7 and 30, the combination of Mayer and Yun teaches wherein the decoder 2D decision units supplies 2D selection commands in response to a trigger selected from the group including receiving an SEI message, an analysis of display capabilities, manual selection ("When the user selects the 2D video display mode for stereoscopic 3D video data", Yun, paragraph 81, and "When the user selects the 3D video display mode for multiview 3D video data", Yun, paragraph 82), and receiver system configuration ("Accordingly, pursuant to the method and circuit of the present invention, a correct allocation of transmitted fields to the polarized lines of the image presentation device is always established regardless of the resolution standard with

which the images are transmitted and displayed. Missing lines are supplemented. Too many lines are skipped. The correct allocation of the transmitted image lines to the respective, polarized presentation lines, finally is obtained by a line transposition when necessary", Mayer, column 2, line 6, Mayer adapts his output to display properly on his output device).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS M. REDDING whose telephone number is (571)270-1579. The examiner can normally be reached on Mon - Fri 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. M. R./
Examiner, Art Unit 2624

/Vikkram Bali/
Supervisory Patent Examiner, Art Unit 2624